Five-Year Review Report

Third Five-Year Review Report

For

International Minerals and Chemical Corporation (IMC)
East Plant Site

Terre Haute, Indiana
April 2004

Prepared by:

Indiana Department of Environmental Management

For

U.S. EPA, Region V, Chicago, IL

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List of Acronyms

AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirements
COC	Contaminant of Concern
BHC	Benzene Hexachloride
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
FIT	Field Investigation Team
EPA	Environmental Protection Agency
FS	Feasibility Study
FYRR	Five-Year Review Report
IDEM	Indiana Department of Environmental Management
IMC	International Minerals & Chemical Corporation
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MW	Monitoring Well
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
PCE	Tetrachloroethylene
PPB	Parts Per Billion
PPM	Parts Per Million
PRPs	Potentially Responsible Parties
RA	Remedial Action
RAOs	Remedial Action Objectives
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
RPM	Remedial Project Manager
SMCL	Secondary Maximum Contaminant Level
SPM	State Project Manger
SVOC	Semi-Volatile Organic Compound
TCE	Trichloroethylene
U.S.	EPA United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

Executive Summary

The remedy for the International and Minerals Chemical Corporation (IMC) site in Terre Haute, Vigo County, Indiana, included: collection, disposal, and capping of benzene hexachloride (BHC) contaminated soils in excess of 50 parts per million (ppm) in a clay-capped mound located on a fenced site area, a surface water drainage system around the cap, periodic groundwater monitoring, and deed restrictions on land use at the site. The trigger for this review is the last Five-Year Review Report, dated March 1999.

The assessment of this Five-Year Review found that the recommendations made in the last Five-Year Review Report were implemented. The selected remedy is functioning as anticipated. The remedy is protective of human health and the environment in the short- term due to implementation of remedial measures at the site. The remedy will be protective in the long-term with the continued operation and maintenance of the remedial measures and upon confirmation of deed restriction documentation by the responsible parties. The deed restrictions were placed in the early 1980s, but the document is not available in the property record. The responsible parties are conducting a legal search for the deed restriction document.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name (from *WasteLAN*):	International Minerals and Chemical Corporation (IMC) East Plant	
EPA ID (from *WasteLAN*):	IND190010876	
Region: 5	State: IN	City/County: Terre Haute/Vigo
SITE STATUS		
NPL status: __Final __X__Deleted __Other (specify)		
Remediation Status (choose all that apply): __Under construction __X__Operating __Complete		
Multiple Ous?* __Yes __X__No		Construction completion date: 6/22/1988
Has site been put into reuse? __Yes __X__No		
REVIEW STATUS		
Lead Agency: __EPA __X__State __Tribe __Other Federal Agency		
Author name: Prabhakar Kasarabada		
Author title: State Project Manager		Author affiliation: IDEM, State of Indiana
Review period: March 1999 to March 2004		
Date(s) of site inspection: 2/20/2004		
Type of review: __X__Post-SARA __Non-NPL remedial action site __Regional discretion		__Pre-SARA __NPL State/Tribe-lead __NPL-removal only
Review number: __1 (first) __2 (second) __X__3 (third) __Other (specify)		
Triggering action: __Actual RA on-site construction __Construction completion __Other (specify)		__Actual RA start __X__Previous five-year review report
Triggering action date (from *WasteLAN*): 3/29/1999		Due date: 3/29/2004

* - Operable unit

Issues:
None

Recommendations and Follow-up Actions:
Continuation of Operation and Maintenance (O&M) activities at the site by the responsible party.

Protectiveness Statement(s):
The remedy is protective of human health and the environment in the short-term. The remedial measures implemented at site included: collection, disposal, and capping of BHC-contaminated soil in excess of 50 parts per million (ppm), periodic groundwater monitoring, inspection of clay-capped mound, and a site security fence.

Long-Term Protectiveness:
Long-term protectiveness of the remedy will be attained upon the continued Operation and Maintenance (O&M) of the remedial measures and with the confirmation of deed restriction documentation by the responsible parties.

Other Comments:
According to official correspondence available from the U. S. EPA and IDEM, the responsible parties implemented the deed restrictions in the early 1980s. However, the deed restriction document was not found in the official record. In a letter dated February 19, 2004, the responsible parties' coordinator informed IDEM that a lega1 search is ongoing to trace the document so it can be placed in the record. If a copy of the deed restriction is not found, a new deed restriction will be placed.

List of Acronyms

AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirements
COC	Contaminant of Concern
BHC	Benzene Hexachloride
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
FIT	Field Investigation Team
EPA	Environmental Protection Agency
FS	Feasibility Study
FYRR	Five-Year Review Report
IDEM	Indiana Department of Environmental Management
IMC	International Minerals & Chemical Corporation
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MW	Monitoring Well
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
PCE	Tetrachloroethylene
PPB	Parts Per Billion
PPM	Parts Per Million
PRPs	Potentially Responsible Parties
RA	Remedial Action
RAOs	Remedial Action Objectives
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
RPM	Remedial Project Manager
SMCL	Secondary Maximum Contaminant Level
SPM	State Project Manger
SVOC	Semi-Volatile Organic Compound
TCE	Trichloroethylene
U.S.	EPA United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

International Minerals and Chemical Corporation (IMC)
East Plant Site
Vigo County, Terre Haute, Indiana
Five-Year Review Report

I. Introduction

The purpose of the five-year review is to determine whether the remedy at the site is protective of human health and the environment. The methods, findings and the conclusions are documented in the Five-Year Review Report. In addition, the Five-Year Review Report documents any issues found during the review and identifies appropriate recommendations to address them.

Indiana Department of Environmental Management (IDEM) staff prepared this report pursuant to §121 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and National Contingency Plan (NCP) CERCLA §121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that the human health and the environment are protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that the action is appropriate at such site in accordance with section [104] or [106]; the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any action taken as a result of such reviews.

U.S. EPA interpreted this requirement further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

IDEM conducted the third five-year review of the remedy implemented at the International Minerals and Chemical Corporation (IMC) East Plant site in Terre Haute, Indiana. The review was conducted by the State Project Manager (SPM) for the site from March 1999 through March 2004. This report documents the results of the review. The triggering action for this statutory review is the last Five-Year Review Report, dated March 29, 1999. IDEM is conducting this review due to the fact that the hazardous substances, pollutants, or contaminants remain at the site.

II. Site Chronology

Table 1- Chronology of the site events

Event	Date
Site Discovery	10/1/1979
Site Proposed for the EPA National Priorities List (NPL)	10/15/1984
Administrative Consent Order by U.S. EPA	05/06/1986
Placed as final on the NPL	06/10/1986
Remedial Investigation/Feasibility Study (RI/FS) began	08/06/1988
Proposed Plan released to public	03/29/1988
Public Meeting for Proposed Plan held	04/07/1988
ROD signed/No Further Action (NFA) Determination	06/22/1988
Construction Completion/O&M began	06/22/1988
Site Deletion	02/11/1991
First Five-Year Review Report	09/26/1996
Second Five Review site visit	12/30/1998
Second Five-Year Review Report	03/29/1999
Third Five-Year Review site visit	02/20/2004

III. Background

Physical Characteristics

The IMC East Plant site (Figure 1) is located in Vigo County, approximately 1.8 miles east of the Wabash River and one mile north of Thompson Ditch. The plant site, which has an area of approximately 37 acres, is bordered on the west by the Milwaukee, St. Paul and Pacific Railroad and on the east by the Louisville Railroad. The disposal area encompasses approximately 6 acres in the northeastern portion of the plant site. The Wabash River is the most prominent physiographic feature in the area. The topography of the area is characterized by wide alluvial plains and valleys that have low relief and a slightly undulated land surface.

Land and Resource Use

The IMC East Plant site is located in the southeastern part of Terre Haute approximately 1.8 miles from the Wabash River at its closest point in a semi-industrialized area of the city. Railroad tracks are located along the west and east boundaries of the facility. The IMC site is located in a Heavy Industrial (M2) local zoning classification area. Historically, the IMC site, formerly Commercial Solvent Corporation (CSC), was used (prior to 1946) for agriculture, as a chemical manufacturing unit (1946), and as an animal housing facility (1966). A portion of the IMC property, upgradient of the disposal area, is used as an employee picnic area. Although city water is available, some residents in the vicinity of EMC East Plant site obtain water from private wells.

History of Contamination

In 1946, the former Commercial Solvent Corporation (CSC) purchased land parcels (approximately 36 acres) and the area became East Plant property. A small facility was constructed on a six-acre segment of this property for manufacturing, packaging, and warehousing of technical- grade benzene hexachloride (BHC-tech.). BHC-tech. is a mixture of several isomers, primarily alpha, beta, gamma, and delta. The gamma isomer of BHC-tech. was once a widely used pesticide, called "Lindane." This material was sold to insecticide manufacturers as raw material for the production of insecticide. Production of BHC-tech. at this facility ceased in 1954. In 1966, the BHC-tech. warehouse was converted into an animal

housing facility. In 1975, CSC was purchased by International Minerals and Chemical Corporation (IMC). In 1979, soil samples, surficial and subsurficial, were taken by IMC. Analytical results of the soil samples indicated BHC contamination was confined within the first seven feet of subsurface, but above the groundwater table. The shallow depth of contaminant penetration, 25 years after plant operation was discontinued, illustrated the low mobility of BHCtech. IMC installed seven monitoring wells at the site. The wells were located (Figure 2) upgradient and downgradient of the site. Groundwater was found not to be contaminated with BHC.

Initial Response

In 1980, Camp Dresser & Mckee, Inc. advised IMC on methods for preventing off-site migration of BHC. Approximately 18,500 cubic yards of soil and other debris were excavated and placed in a secure clay-capped mound (Appendix A/Figure 2 & Appendix B). Soil samples were collected and analyzed to allow for the removal of soils at the site containing in excess of 50 parts per million (ppm) BHC. The residual concentration remaining in the on-site soil is substantially less than 50 ppm BHC. The clay-capped mound was designed in accordance with U.S. EPA guidelines (U.S. SPA 43 FR 59011, December 8, 1978) for closure of hazardous waste landfills. The clay-capped mound included a surface water drainage system and soil gas venting. Monitoring wells located (Figure 2) upgradient (MW-1, MW-2, MW-7, and PW-1) and downgradient (MW-9, MW-10, and MW-11) have been monitored periodically since 1981 by IMC.

In May 1986, the U.S. EPA signed a CERCLA 106 Administrative Consent Order (Order) with IMC that required undertaking of a Remedial Investigation/Feasibility Study (RI/FS) at the IMC site. The RI was focused on determining the nature and extent of contamination at the site. The FS was focused on evaluation of remedial alternatives to prevent or mitigate the migration of contamination from the IMC site. The RI/FS was completed in April 1988. The RI/FS concluded that the on site waste (BHC-contaminated soils in excess of 50 ppm concentration) capped in an on-site area (clay-capped mound) was not adversely impacting groundwater in the area. The study further concluded that the initial remedial measures implemented by IMC were protecting health human and the environment and that no further action, except continuation of monitoring, was necessary at the site.

Basis for Taking the Action

The Commercial Solvent Corporation (CSC) was purchased by IMC in mid-1975. IMC constructed a facility for manufacturing, packaging and warehousing of BHC-tech. The facility was operated from 1946-1954. Following the purchase of the property IMC collected surficial soil samples from the East Plant site that were suspected to be contaminated with BHC. In 1980, Camp, Dresser & Mckee Inc. recommended the BHC contaminated soils be excavated and capped at the site. Approximately 18,500 yards of soil, in excess of 50 ppm of BHC were excavated and placed in a secure clay-capped mound at the site. IMC installed six monitoring wells (three upgradient and three downgradient) near the site. In 1981, the Indiana State Board of Health requested assistance from the U.S. Environmental Protection Agency in the investigation of possible groundwater contamination from the waste mound at the East Plant facility. The U.S. EPA tasked the Field Investigation Team (FIT) to undertake the investigation at the facility. The FIT report concluded that the contaminants from the waste mound at the facility may potentially impact the groundwater.

The results from sampling of monitoring wells at the East Plant facility showed that only one upgradient well (MW-5) contained 7 ppb of chloroform, 9 ppb of toluene, and 14 ppb of trichloroethylene (TCE). One residential well indicated 41 ppb of chloroform, 8 ppb of TCE and 5 ppb of carbon tetrachloride. One city well indicated 5 ppb of TCE. The potential health concern associated with the IMC East Plant site is the quality of the Wabash River Valley aquifer. The groundwater analyses for a period of six years (1981-1986) indicated that BHC contamination was always below the U.S. EPA established Maximum Contaminant Level Goal (MCLG) of 0.2 ppb. No BHC contamination above the MCL of 4.0 ppb or MCLG of 0.2 ppb was ever found in

groundwater. In October 1984, the U.S. EPA proposed placing the IMC East Plant site on the National Priorities List (NPL) and it was finalized in June 1986.

IV. Remedial Action

Remedy Selection

The remedial action objectives (RAOs) for the site included a No Action/Maintenance Program which involved systematic monitoring with a contingency plan. The program objectives are to:

- Confirm that closure system continues to prevent transfer of contamination to the groundwater.
- Provide early warning should capping system failure occur.
- Establish a contingency plan for cap repair or replacement.

The Record of Decision (ROD) was signed on June 22, 1988. The ROD required that the on-going groundwater monitoring at the site be continued until December 2010 (30 years after closure was completed in 1980). The remedy selected in the June 1988 ROD included: collection, disposal and capping of on-site contaminated soils to 50 ppm BHC, inspection of the clay-capped mound located on-site, a surface water drainage system, continuation of periodic groundwater monitoring, and deed restrictions on site land use.

Remedy Implementation

Because of the immediate remedial measures implemented by IMC in 1980, a decision was reached in 1988 by the U.S. EPA that no further cleanup action was necessary at the site. The ROD recommended a No Action/Maintenance Program for the site involving systematic monitoring backed up by a contingency plan. The contingency plan described in the ROD included an analytical protocol to initiate a remedial action and methods for cap repair and replacement, if necessary.

System Operation/Operation and Maintenance

The June 1988 ROD described a recommended No Action/Maintenance Program for the site involving systematic monitoring. The ROD-recommended program also included a monitoring program which required that the on-going periodic groundwater monitoring continue until December 2010 (30 years after closure was completed in 1980), and that deed restrictions be placed to prohibit private use of the site. The major elements of this O&M program included.

- Clay-capped mound inspection and maintenance of vegetative cover;
- Sampling of three upgradient (Figure 2) wells with analysis conducted for BHC isomers. (Semi-annual sampling for initial 5 years and annual sampling thereafter until year 2010);
- Sampling of three downgradient (Figure 2) wells with analysis conducted for BHC isomers. (Semi-annual sampling initial 5 years and annual sampling thereafter until 2010);
- Annual reporting of results to the State of Indiana; and
- A review of analytical results at the end of each five-year period.

V. Progress Since the Last Five-Year Review

This is the third five-year review for the site. Since the last five-year review the responsible parties have been continuing Operation and Maintenance (O&M) activities at the

site. The activities continued since the completion of the last Five-Year Review Report, dated March 29, 1999, include:

- Annual groundwater monitoring of upgradient and downgradient wells.
- Inspection of clay-capped mound and site security fence.
- Reporting of analytical results to the State.
- Deed restrictions (pending confirmation of deed documentation).

The analytical results through the 2000 sampling event indicated that the main contaminant of concern (COC), the gamma isomer of BHC (commercially known as Lindane), levels are below the U.S. EPA established maximum contaminant level goal (MCLG) of 0.2 parts per billion (ppb). In June 2001, IDEM staff split samples with IMC contractor ATC Associates Inc. Samples were analyzed for pesticides and volatile organic compounds (VOCs). The results for pesticides from the six wells were consistent with previous results reported. However, the VOCs analysis indicated tetrachloroethylene (PCE) in downgradient monitoring well MW-9, at 13 ppb. The MCL for PCE is 5 ppb. IDEM staff requested the IMC begin groundwater monitoring on a quarterly basis for four consecutive quarters and analyze for VOCs and semi-VOCs in addition to annual sampling for pesticides (BHC-tech. isomers). In 2002, IDEM staff advised IMC to drop monitoring well PW-1 and add MW-7 to the monitoring program. The new IMC contractor, Earth Tech, conducted quarterly sampling events in April 2002, June 2002, September 2002, and December 2002. The analytical results from all four quarterly events did not detect any VOCs. The annual monitoring events resumed in 2003. The analytical results for the July 2003 annual sampling event indicated all BHC isomers, including Lindane, are below the U.S. EPA established MCLG level of 0.2 ppb.

VI. Five-Year Review Process

Administrative Components

The IMC Five-Year Review was conducted by the State Project Manager (SPM) for the site. The support agency coordinator, the Remedial Project Manger (RPM) from the U.S. EPA, assisted in the review. The review consisted of perusal of past site related documents, previous Five-Year Review Reports, and a review of analytical results since the completion of the last Five-Year Review Report, dated March 1999.

Community Involvement

Members of the community were notified of initiation of the five-year review by a press notification published in the local newspaper, the Tribune Star, dated February 24, 2003. The notification included major components of the selected site remedy. The IMC site has generated little public interest or media attention since the site was identified as a Superfund site.

Document Review

For this review, the lead agency coordinator, the State Project Manager for the site, has reviewed the previous Five-Year Review Reports, periodic monitoring reports and site inspection reviews in conjunction with the support agency coordinator, the U.S. EPA's RPM.

Data Review

The purpose of site inspections and groundwater monitoring at the site is to assess the physical condition of the clay-capped mound and security fence at the site and to monitor groundwater concentrations of pesticides. Lindane was identified as a contaminant of concern (COC) at this site. Groundwater samples are collected annually from six monitoring wells (three upgradient and three downgradient). The most recent (April 2003) and the historic analytical results have indicated that the Lindane concentrations are always below the U.S. EPA

established MCLGs of 0.2 ppb. The IMC Groundwater Analytical Results (1999-2003) are attached to this report (Appendix B). The existing Lindane concentrations do not pose any threat to human health and the environment.

Site Inspection

A five-year review site inspection was conducted by the State Project Manager on February 20, 2003. The purpose of the visit was to determine the protectiveness of the remedial measures which included: a clay-capped mound, site security fence and groundwater monitoring system. The climatic conditions at the time of the site visit were cloudy and temperature was in the lower 50s Fahrenheit. Based on the site inspection, all the existing monitoring wells, the claycapped mound, and site security fence are in good condition. The vegetation on the top of the clay-capped mound was thick and healthy. Current site photographs are attached to this report (Appendix C). The deed restriction document was not found in the official record. In a letter dated February 19, 2004, the responsible parties' coordinator informed IDEM that a legal search is ongoing to trace the document so it can be placed in the record. The legal search results are pending. If a copy of the deed restriction is not found, a new deed restriction will be placed.

Interviews

No site interviews were conducted due to very minimal community interest at this site.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

A review of the available information indicates that the remedy is functioning as was intended by the decision documents. There was no migration of contamination from the site and groundwater was not contaminated.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

No new exposure assumptions are needed at this time. There have been no major changes in physical conditions of the site or the quality of groundwater that would affect the protectiveness of the remedy.

Changes in Standards and To be Considereds

As the remedial work at site has been completed, the primary applicable relevant and appropriate requirements (ARARs) for the groundwater contamination cited in the ROD have been met. All federal and state requirements are being met. No new ARARs need to be considered at this time.

Changes in Exposure Pathways, Toxicity, and Other Contaminant Characteristics

The exposure pathways assumption applicable to current and future trespassers was effectively reduced by the site security fence. There have been no changes in the toxicity factors for the contaminant of concern at the site. No change to these assumptions or cleanup levels developed from them is warranted at this time. The remedy is progressing and all groundwater cleanup goals are being met. Monitoring will continue for the next 6 years (2010).

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

There has been no new information that would suggest that the selected remedy is not protective.

Technical Assessment Summary

According to the analytical data reviewed, and the site inspection reports, the remedy is functioning as intended by the ROD. There have been no changes in the physical condition of the site that would affect the protectiveness of the remedy in the short and long term. There have been no changes in the toxicity factors for the contaminant of concern. There is no other information that calls into question the protectiveness of the remedy.

VIII. Issues

There are no significant issues of concern that affect protectiveness of the remedy as a result of this five-year review.

IX. Recommendations and Follow-Up Actions

IDEM staff recommend continuation of O&M activities at the site until December 2010.

X. Protectiveness Statement

The remedy is protective of human health and the environment in the short-term. The implementation of remedial measures which included: periodic groundwater monitoring, inspection of clay-cap, and site security fence ensured protection of human health and the environment in the short-term.

Long-term protectiveness was attained by placing deed restrictions on the property in 1982. However, the deed restriction document was not found in the official record. In a letter dated February 19, 2004, the responsible parties coordinator informed IDEM that a legal search is ongoing to trace the document so it can be placed in the record. If a copy of the deed restriction is not found, a new deed restriction will be placed.

XI. Next Review

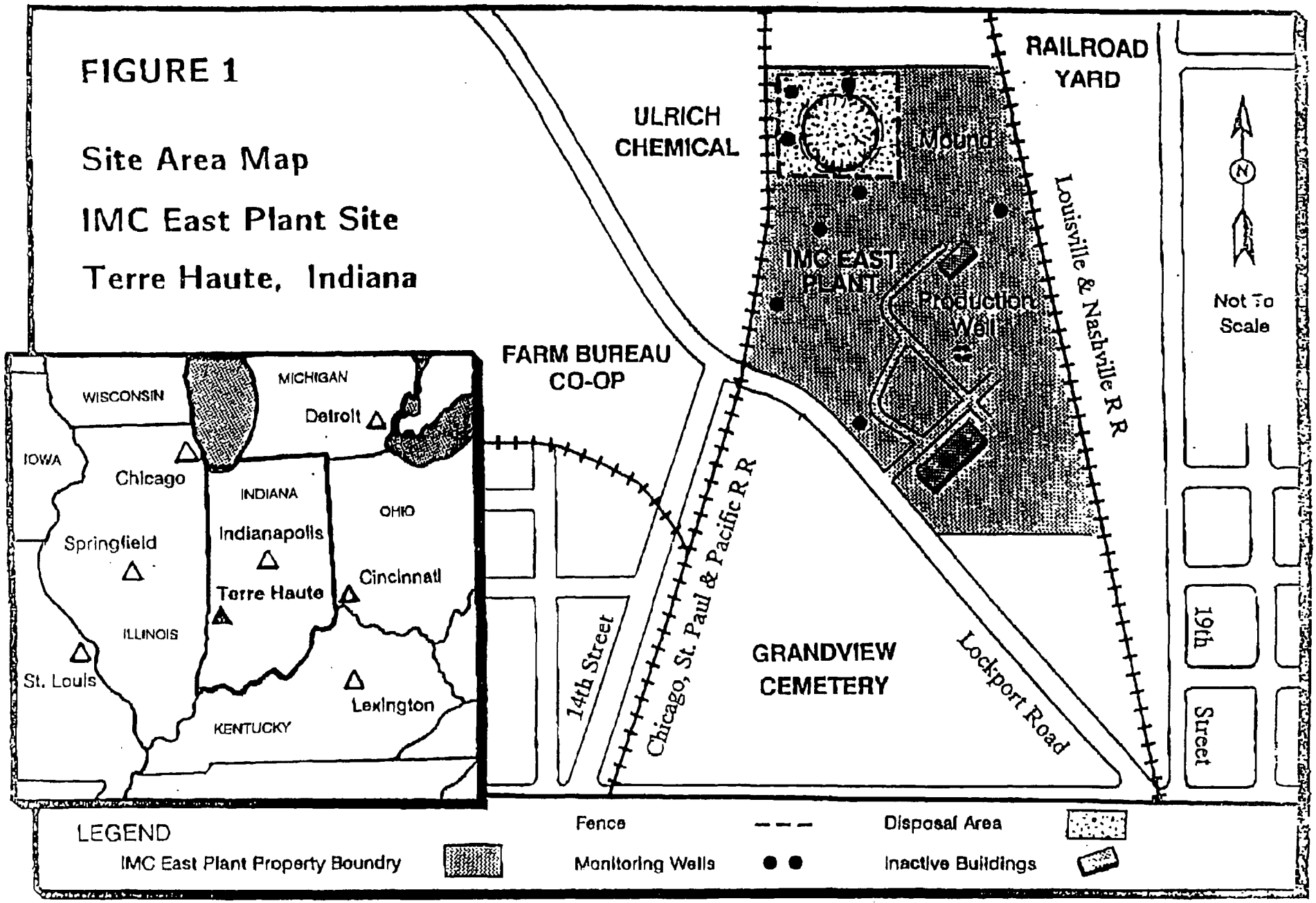
The next five-year review for the IMC East Plant site is required by March 2009, five years from the date of this review.

FIGURE 1

Site Area Map

IMC East Plant Site

Terre Haute, Indiana



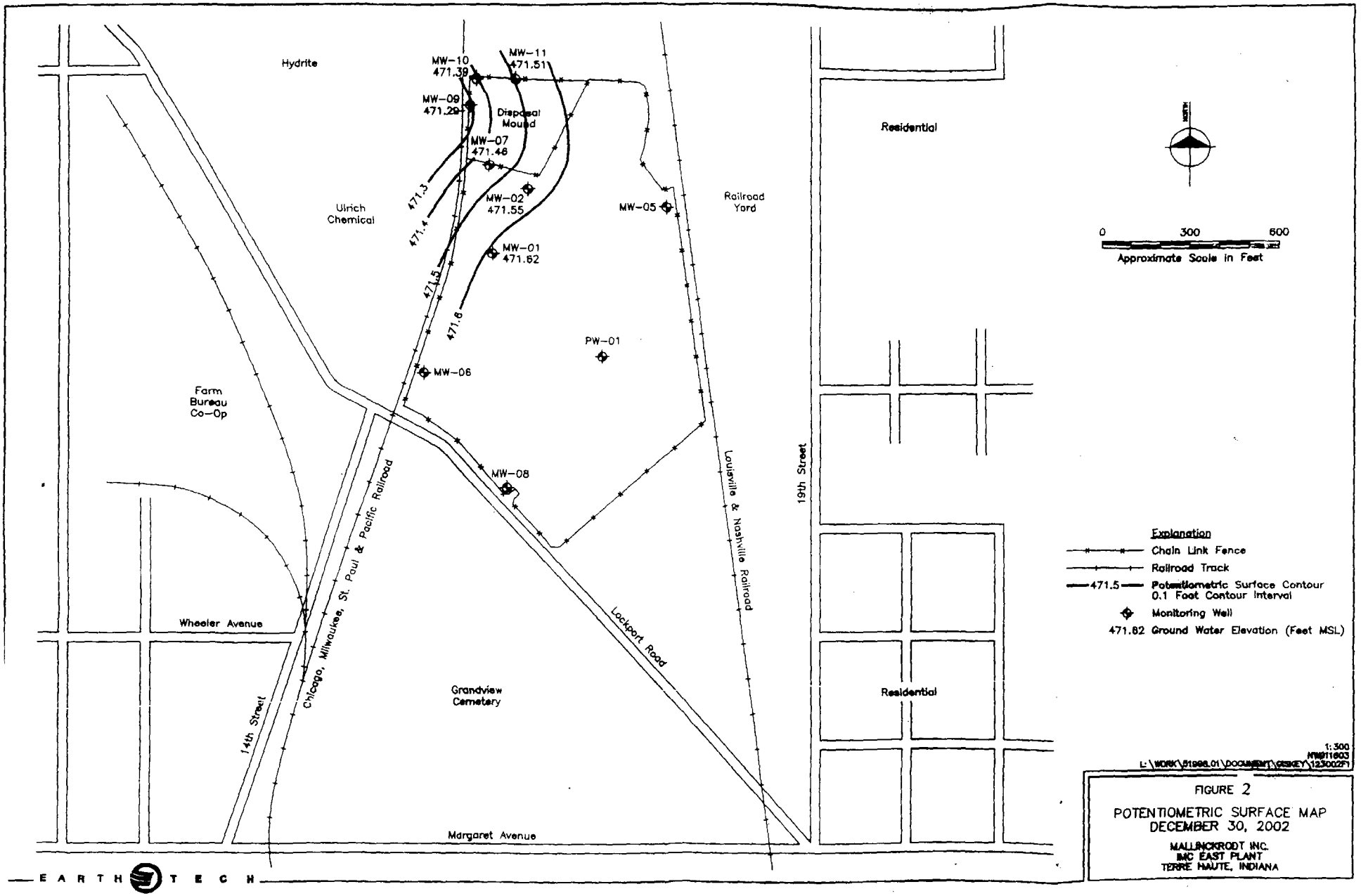


FIGURE 2

POTENTIOMETRIC SURFACE MAP
DECEMBER 30, 2002

MALLINCKRODT INC.
IMC EAST PLANT
TERRE HAUTE, INDIANA

EARTH TECH

Appendix B
IMC Groundwater Analytical Results 1999 - 2003

IMC East Plant Superfund Site
Terre Haute, Vigo County, Indiana
Analytical Results 2002 and 2003

1st Quarter	Constituent	MCL (µg/L)	MW-01 4/30/2002	MW-02 4/30/2002	MW-07 4/30/2002	MW-09 4/30/2002	MW-10 4/30/2002	MW-11 4/30/2002	MW-09D 4/30/2002
	Volatile Organic Compounds (µg/L)								
	tetrachloroethylene	5	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	trichloroethylene	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5

MW-09D is a duplicate of MW-09

2nd Quarter	Constituent	MCL (µg/L)	GW-MW-01 6/27/2002	GW-MW-02 6/27/2002	GW-MW-07 6/27/2002	GW-MW-09 6/27/2002	GW-MW-10 6/27/2002	GW-MW-11 6/27/2002	MW-11-DUP 6/27/2002
	Volatile Organic Compounds (µg/L)								
	tetrachloroethylene	5	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	trichloroethylene	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
	Pesticides (µg/L)								
	alpha-BHC	0.45 (1)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	beta-BHC	1.6 (1)	< 0.1	< 0.1	< 0.1	0.34	0.2	< 0.1	< 0.1
	delta-BHC	NA	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	gamma-BHC (Lindane)	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

MW-11-DUP is a duplicate of GW-MW-11

3rd Quarter	Constituent	MCL (µg/L)	GW-MW-01 09/27/2002	GW-MW-02 09/27/2002	GW-MW-07 09/27/2002	GW-MW-09 09/27/2002	GW-MW-10 09/27/2002	GW-MW-11 09/27/2002	GW-DUP-01 09/27/2002
	Volatile Organic Compounds (µg/L)								
	tetrachloroethylene	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
	trichloroethylene	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5

GW-DUP-01 is a duplicate of GW-MW-09

4th Quarter	Constituent	MCL (µg/L)	GW-MW-01 12/30/2002	GW-MW-02 12/30/2002	GW-MW-07 12/30/2002	GW-MW-09 12/30/2002	GW-MW-10 12/30/2002	GW-MW-11 12/30/2002	GW-DUP-01 12/30/2002
	Volatile Organic Compounds (µg/L)								
	tetrachloroethylene	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
	trichloroethylene	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5

GW-DUP-01 is a duplicate of GW-MW-11

Annual 2003	Constituent	MCL (µg/L)	GW-MW-01 7/10/2003	GW-MW-02 7/10/2003	GW-MW-07 7/10/2003	GW-MW-09 7/10/2003	GW-MW-10 7/10/2003	GW-MW-11 7/10/2003	MW-11-DUP 7/10/2003
	Pesticides (µg/L)								
	alpha-BHC	0.45 (1)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
	beta-BHC	1.6 (1)	< 0.10	< 0.10	< 0.10	0.26	0.17	< 0.10	< 0.10
	delta-BHC	NA	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
	gamma-BHC (Lindane)	0.2	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

MCL - Maximum Contaminant Level
(1) - RISC Industrial Default Closure Number
BHC - Benzene Hexachloride
< - Not Detected
µg/L - micrograms/Liter

IMC Superfund Site
Terre Haute, Vigo County, Indiana
Groundwater Analytical Results 1999 – 2001

Well ID	Sample Date	Alpha-BHC	Beta-BHC	Delta-BHC	Gamma-BHC (Lindane)
MW-1	06/11/99	< 0.03	< 0.06	< 0.09	< 0.04
	12/10/99	< 0.03	< 0.06	< 0.09	< 0.04
	06/09/00	< 0.03	< 0.06	0.18	< 0.04
	06/06/01	BDL	BDL	BDL	BDL
MW-2	06/11/99	< 0.03	< 0.061	< 0.091	< 0.04
	12/10/99	< 0.03	< 0.06	< 0.09	< 0.04
	06/09/00	< O.03	< 0.06	< 0.09	< 0.04
	06/06/01	BDL	BDL	BDL	BDL
MW-9	06/11/99	< 0.03	< 0.061	< 0.091	< 0.04
	12/10/99	< 0.03	< 0.06	< 0.09	< 0.04
	06/09/00	< 0.03	< 0.06	< 0.09	< 0.04
	06/06/01	BDL	0.190	0.31	BDL
MW-10	06/11/99	< 0.03	0.150	< 0.091	< 0.04
	6/11/99D	< 0.03	0.140	< 0.091	< 0.04
	12/10/99	< 0.03	0.140	0.095	< 0.04
	06/09/00	< 0.03	0.200	0.34	< 0.04
	06/06/01	BDL	BDL	0.33	BDL
MW-11	06/11/99	< 0.03	< 0.06	< 0.09	< 0.04
	12/10/99	< 0.03	< 0.06	< 0.09	< 0.04
	06/09/00	< O.03	< 0.06	< 0.09	< 0.04
	06/09/OOD	< 0.03	< 0.06	< 0.09	< 0.04
	06/06/01	BDL	BDL	BDL	BDL
Production Well (PW-1)	06/11/99	< 0.03	< 0.06	< 0.09	< 0.04
	12/10/99	< 0.03	< 0.06	< 0.09	< 0.04
	06/09/00	< 0.03	< 0.06	< 0.09	< 0.04
	06/06/01	BDL	BDL	BDL	BDL

Note: Analysis reported in parts per billion (ppb)
BDL - Below Detection Limits
D - Duplicate

Appendix C
Site Photographs

IMC SUPERFUND SITE
TERRE HAUTE, VIGO COUNTY, INDIANA

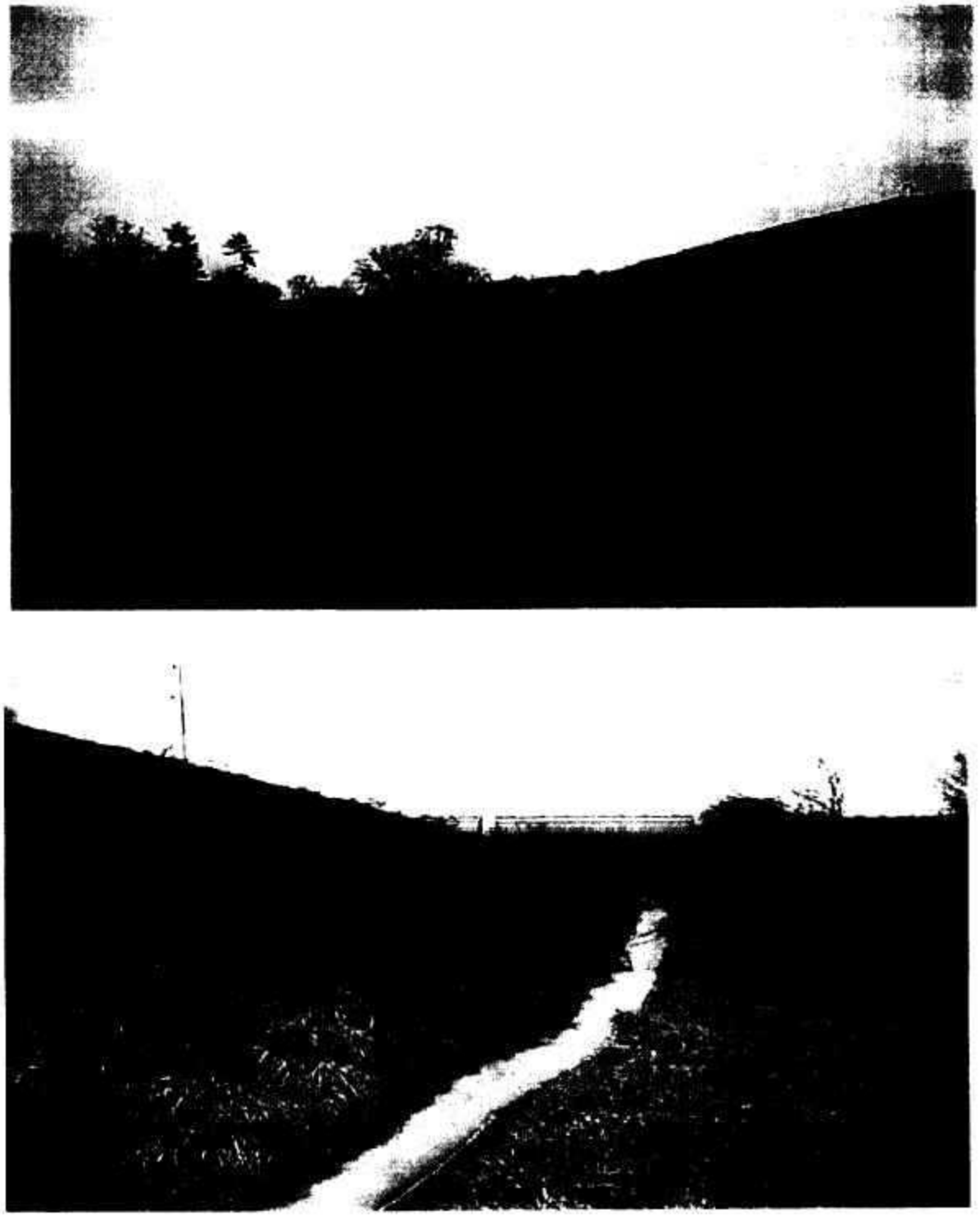
TOP: Entrance gate south side of IMC site

BOTTOM: Site security fence along Lockport Road

IMC SUPERFUND SITE
TERRE HAUTE, VIGO COUNTY, INDIANA

TOP: Clay-capped mound as seen from southest corner of fenced area
BOTTOM: Security fence around the cap and downgradient of MW-7

IMC SUPERFUND SITE
TERRE HAUTE, VIGO COUNTY, INDIANA



TOP: Security fence- northern side of clay-capped mound

BOTTOM: Surface water drainage-western side of clay-capped mound